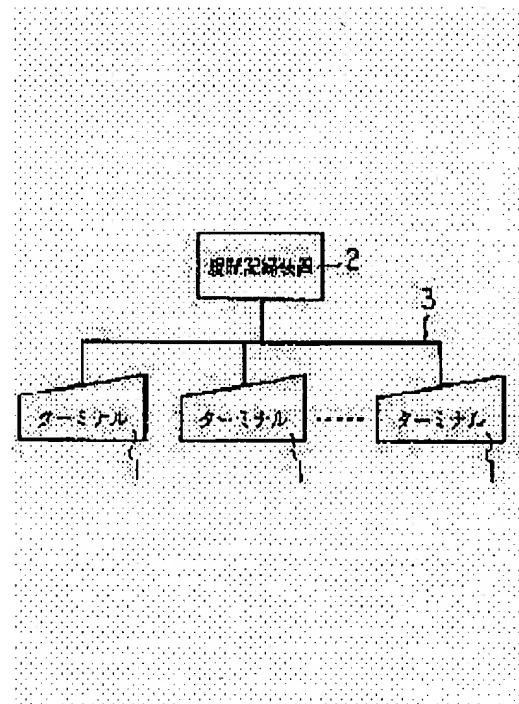


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(21)Application number : **04-302669** (71)Applicant : **TOKYO ELECTRIC CO LTD**
(22)Date of filing : **12.11.1992** (72)Inventor : **KANAI TATSUHIKO**
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CONSTITUTION: A terminal 1 for sales registration of commodity sales data of one transaction and a history recorder 2 are connected by a communication line 3. The terminal 1 prints and issues a receipt of the registered transaction by a receipt printer and transmits registration history data of this transaction to the history recorder 2 through the communication line 3. The history recorder 2 receives registration history data to write and record this data on a hard disk in the reception order.



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CLAIMS

[Claim(s)]

[Claim 1] The sales registration section and the registration hysteresis Records Department are connected by the communication line. Said sales registration section The sales registration means which carries out sales registration of the goods sales data of 1 dealings, and a transmitting means to transmit the registration historical data of the dealings by which sales registration of the goods sales data was carried out with this sales registration means to said registration hysteresis Records Department through said communication line are established. Said registration hysteresis Records Department is a goods sales data processor characterized by establishing a receiving means to receive the registration historical data transmitted by said transmitting means, and a record means to record the registration historical data received by this means in order of reception.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to goods sales data processors, such as an electronic cash register and a POS (point of sale) terminal.

[0002]

[Description of the Prior Art] This conventional kind of goods sales data processor carries two kinds of printers, a receipt printer and a journal printer. If sales registration of sale goods is performed by the key stroke of a keyboard etc., the goods sales data will be simultaneously printed to a receipt form and journal paper. Moreover, if the registration bundle of 1 dealings is directed by the bundle key stroke, the sum total data of the dealings and a visitor's payment data will be printed it is the same and simultaneous to a receipt form and journal paper. A receipt form is discharged from receipt issuance opening, and a cutter cuts it, it is published as a receipt, and journal paper is rolled round according to the record paper-rolled picking device inside equipment.

[0003] Therefore, the registration historical data of the dealings by which sales registration of the goods sales data was carried out with this goods sales data processor will be recorded on journal paper, and the store carried out fixed period storage of the journal paper [finishing / printing], and enabled the check of registration hysteresis.

[0004]

[Problem(s) to be Solved by the Invention] However, since a receipt is passed to the visitor who paid the price of purchase goods, it is necessary to carry a receipt printer in a goods sales data processor but, and since journal paper [finishing / printing] is kept in a store, there is no need of carrying a journal printer in a goods sales data processor, and performing journal printing to receipt printing and coincidence.

[0005] That is, since the function of the conventional goods sales-data processor is not lost and a journal printer can eliminate from the sales registration section even if it distributes the sales registration section which carries out sales registration of the goods sales data of 1 dealings, and carries out printing issuance of the receipt, and the registration hysteresis Records Department which records the registration historical data of the dealings processed in this sales registration section, it is expectable in effectiveness excelled, such as a miniaturization of the sales registration section, and increase in efficiency.

[0006] Then, this invention can eliminate the part which records registration historical data from the sales registration section which carries out sales registration of the goods sales data of 1 dealings, and tends to offer the goods sales data processor which can attain the miniaturization of the sales registration section, and increase in efficiency.

[0007]

[Means for Solving the Problem] This invention connects the sales registration section and the registration hysteresis Records Department by the communication line. The sales registration section The sales registration means which carries out sales registration of the goods sales data of 1 dealings, and a transmitting means to transmit the registration historical data of the dealings by which sales registration of the goods sales data was carried out with this sales registration means to the registration

hysteresis Records Department through a communication line are established. The registration hysteresis Records Department establishes a receiving means to receive the registration historical data transmitted by the transmitting means, and a record means to record the registration historical data received by this means in order of reception.

[0008]

[Function] If it is this invention of such a configuration and sales registration of the goods sales data of 1 dealings will be carried out in the sales registration section, it will be transmitted to the registration hysteresis Records Department through a communication line, and the registration historical data of the dealings concerned will be recorded at this registration hysteresis Records Department.

[0009] Therefore, it can distribute that the sales registration section and the registration hysteresis Records Department are also for a communication line in the range in which data communication is possible, and the registration hysteresis Records Department can be eliminated from the sales registration section.

[0010]

[Example] Hereafter, the example of this invention is explained, referring to a drawing.

[0011] Drawing 1 is the block diagram showing the outline of example equipment, and this example equipment installs the hysteresis recording device 2 in the administration building of a store etc. as the registration hysteresis Records Department, it connects both by the communication lines 3, such as LAN (local area network), and is constituted while installing two or more sets of terminals 1 in each counter of a store as the sales registration section.

[0012] The terminal 1 provides CPU (central processing unit) 10 as a control-section body, as shown in drawing 2. CPU10 operates according to the program beforehand set as the ROM (read only memory) field of the memory section 11, and if needed, data are written in the RAM (random access memory) field of the memory section 11, or it performs read-out of data from a RAM field.

[0013] Moreover, CPU10 controls each part of the indicator controller 19 on which the clock section 13 which clocks the communication link controller 12, the current date, and time of day which control the data communication performed through said communication line 3, the printer controller 15 which carries out printing actuation of the receipt printer 14, the keyboard controller 17 which incorporates the keying signal from a keyboard 16, and an indicator 18 are operated, and the alphabetic character corresponding to an indicative data etc. is displayed.

[0014] The receipt printer 14 carries out data printing at a predetermined receipt form, and cuts and carries out receipt issuance by the trading unit.

[0015] The key for inputting goods sales data into a keyboard 16, the bundle key which directs the registration bundle of 1 dealings are arranged.

[0016] The hysteresis recording device 2 provides CPU20 as a control-section body, as shown in drawing 3. This CPU20 operates according to the program beforehand set as the ROM field of the memory section 21, and if needed, data are written in the RAM field of the memory section 21, or it performs read-out of data from a RAM field.

[0017] Moreover, CPU20 controls each part of hard disk controller 29 grade which write data to the communication link controller 22 which controls the data communication performed through said communication line 3, the floppy disk driver 23 which write data to the floppy disk with which it is equipped free [attachment and detachment], the printer controller 25 which carries out printing actuation of the journal printer 24, the keyboard controller 27 which incorporates the keying signal from a keyboard 26, and a hard disk 28.

[0018] The journal printer 24 carries out data printing at predetermined journal paper, and journal paper [finishing / printing] is discharged by the equipment exterior from a recording paper exhaust port.

[0019] The key which orders it the printout of registration historical data, the key which specifies the range of data which carries out a printout are arranged by the keyboard 26.

[0020] Carrying out the deer, said terminal 1 has established the sales registration means which carries out sales registration of the goods sales data of 1 dealings. This sales registration means is constituted by CPU10, the memory section 11, a keyboard 16, and the keyboard controller 17. That is, if the goods

sales data of 1 dealings is inputted by the key input of a keyboard, CPU10 will operate according to the program of a ROM field, and will carry out registration processing of the goods sales data at the sales counter formed in the RAM field.

[0021] Moreover, if the goods sales data of 1 dealings is registered by the sales registration means, program setting out especially of CPU10 is carried out so that processing shown in drawing 5 (a) may be performed.

[0022] That is, if those of the goods sales data of 1 dealings with sales registration are checked at a step ST 1, while controlling a printer controller 15 and making the receipt printer 14 perform receipt printing of goods sales data, sequential storing of the goods sales data is carried out at the buffer formed in the RAM field.

[0023] Next, if the registration bundle of 1 dealings is directed by the bundle key input of a keyboard 16 by ST2, will control a printer controller 15, the receipt printer 14 will be made to perform receipt printing of the sum total data of the dealings concerned, and a visitor's payment data, and a receipt will be made to publish.

[0024] Next, a registration historical-data message is created in the message format shown in drawing 4 by ST3, and this message is transmitted to the hysteresis recording device 2 through the communication link controller 12 and a communication line 3. Periodically, if it detects a response ready for receiving by ST4, it will clear the buffer with which goods sales data was accumulated, and will end this processing repeatedly, until this message transmitting processing has the response ready for receiving which shows that it was normally receivable from the hysteresis recording device 2.

[0025] In addition, in drawing 4, a header 41 is the information on the transmission place address (communication link address of the hysteresis recording device 2), or the sending agency address (communication link address of the terminal 1 concerned). The terminal number 42 is an identification number beforehand assigned for every terminal. The receipt number 43 is a number equivalent to the number of sheets of the receipt published in the terminal 1. The registration time data 44 are time data read from the clock section 13, when a bundle key input is carried out. The goods sales data 45 is data stored in the buffer, and the sum total and payment data are data obtained by the bundle key input.

[0026] A terminal 1 has a transmitting means to transmit the registration historical data of the dealings by which sales registration of the goods sales data was carried out with said sales registration means to the hysteresis recording device 2 through a communication line 3 here. This transmitting means consists of CPU10, the memory section 11, and a communication link controller 12.

[0027] On the other hand, if the above-mentioned registration historical-data message is received through the communication link controller 22, program setting out of the hysteresis recording apparatus 2 is carried out so that processing shown in drawing 5 R> 5 (b) may be performed.

[0028] That is, it judges whether message reception was checked by ST5 and the message has been normally received by ST6. And when a busy condition etc. is not able to receive a message normally, the terminal 1 of message dispatch origin is answered in a receive-not-ready response.

[0029] If it checks that it is normally receivable by ST6, while answering the terminal 1 of message dispatch origin in a response ready for receiving, write-in record of the registration historical data (the terminal number 42, the receipt number 43, the registration time data 44, the goods sales data 45, and the sum total and payment data 46) which received is carried out in the order of reception at a hard disk 28.

[0030] The hysteresis recording apparatus 2 has a receiving means to receive the registration historical data transmitted from the terminal 1, and a record means to record the registration historical data received by this means in order of reception here.

[0031] A receiving means consists of CPU20, the memory section 21, and a communication link controller 22. A record means consists of CPU20, the memory section 21, and a hard disk controller 29.

[0032] Moreover, assignment of the output of registration historical data of the key input of a keyboard 26 carries out program setting out of CPU10 so that processing shown in drawing 6 R> 6 may be performed.

[0033] That is, if those of registration historical data with output specification are checked by ST7, it will judge whether the partial output was directed by ST8, and whether it was directed to the package

output.

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TECHNICAL FIELD

[Industrial Application] This invention relates to goods sales data processors, such as an electronic cash register and a POS (point of sale) terminal.

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EFFECT OF THE INVENTION

[Effect of the Invention] As explained in full detail above, the part which records registration historical data from the sales registration section which carries out sales registration of the goods sales data of 1 dealings according to this invention can be eliminated, and the goods sales data processor which can attain the miniaturization of the sales registration section and increase in efficiency can be offered.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] However, since a receipt is passed to the visitor who paid the price of purchase goods, it is necessary to carry a receipt printer in a goods sales data processor but, and since journal paper [finishing / printing] is kept in a store, there is no need of carrying a journal printer in a goods sales data processor, and performing journal printing to receipt printing and coincidence.

[0005] That is, since the function of the conventional goods sales-data processor is not lost and a journal printer can eliminate from the sales registration section even if it distributes the sales registration section which carries out sales registration of the goods sales data of 1 dealings, and carries out printing issuance of the receipt, and the registration hysteresis Records Department which records the registration historical data of the dealings processed in this sales registration section, it is expectable in effectiveness excelled, such as a miniaturization of the sales registration section, and increase in efficiency.

[0006] Then, this invention can eliminate the part which records registration historical data from the sales registration section which carries out sales registration of the goods sales data of 1 dealings, and tends to offer the goods sales data processor which can attain the miniaturization of the sales registration section, and increase in efficiency.

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MEANS

[Means for Solving the Problem] This invention connects the sales registration section and the registration hysteresis Records Department by the communication line. The sales registration section The sales registration means which carries out sales registration of the goods sales data of 1 dealings, and a transmitting means to transmit the registration historical data of the dealings by which sales registration of the goods sales data was carried out with this sales registration means to the registration hysteresis Records Department through a communication line are established. The registration hysteresis Records Department establishes a receiving means to receive the registration historical data transmitted by the transmitting means, and a record means to record the registration historical data received by this means in order of reception.

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EXAMPLE

[Example] Hereafter, the example of this invention is explained, referring to a drawing.

[0011] Drawing 1 is the block diagram showing the outline of example equipment, and this example equipment installs the hysteresis recording device 2 in the administration building of a store etc. as the registration hysteresis Records Department, it connects both by the communication lines 3, such as LAN (local area network), and is constituted while installing two or more sets of terminals 1 in each counter of a store as the sales registration section.

[0012] The terminal 1 provides CPU (central processing unit) 10 as a control-section body, as shown in drawing 2. CPU 10 operates according to the program beforehand set as the ROM (read only memory) field of the memory section 11, and if needed, data are written in the RAM (random access memory) field of the memory section 11, or it performs read-out of data from a RAM field.

[0013] Moreover, CPU 10 controls each part of the indicator controller 19 on which the clock section 13 which clocks the communication link controller 12, the current date, and time of day which control the data communication performed through said communication line 3, the printer controller 15 which carries out printing actuation of the receipt printer 14, the keyboard controller 17 which incorporates the keying signal from a keyboard 16, and an indicator 18 are operated, and the alphabetic character corresponding to an indicative data etc. is displayed.

[0014] The receipt printer 14 carries out data printing at a predetermined receipt form, and cuts and carries out receipt issuance by the trading unit.

[0015] The key for inputting goods sales data into a keyboard 16, the bundle key which directs the registration bundle of 1 dealings are arranged.

[0016] The hysteresis recording device 2 provides CPU 20 as a control-section body, as shown in drawing 3. This CPU 20 operates according to the program beforehand set as the ROM field of the memory section 21, and if needed, data are written in the RAM field of the memory section 21, or it performs read-out of data from a RAM field.

[0017] Moreover, CPU 20 controls each part of hard disk controller 29 grade which write data to the communication link controller 22 which controls the data communication performed through said communication line 3, the floppy disk driver 23 which write data to the floppy disk with which it is equipped free [attachment and detachment], the printer controller 25 which carries out printing actuation of the journal printer 24, the keyboard controller 27 which incorporates the keying signal from a keyboard 26, and a hard disk 28.

[0018] The journal printer 24 carries out data printing at predetermined journal paper, and journal paper [finishing / printing] is discharged by the equipment exterior from a recording paper exhaust port.

[0019] The key which orders it the printout of registration historical data, the key which specifies the range of data which carries out a printout are arranged by the keyboard 26.

[0020] Carrying out the deer, said terminal 1 has established the sales registration means which carries out sales registration of the goods sales data of 1 dealings. This sales registration means is constituted by CPU 10, the memory section 11, a keyboard 16, and the keyboard controller 17. That is, if the goods sales data of 1 dealings is inputted by the key input of a keyboard, CPU 10 will operate according to the

program of a ROM field, and will carry out registration processing of the goods sales data at the sales counter formed in the RAM field.

[0021] Moreover, if the goods sales data of 1 dealings is registered by the sales registration means, program setting out especially of CPU10 is carried out so that processing shown in drawing 5 (a) may be performed.

[0022] That is, if those of the goods sales data of 1 dealings with sales registration are checked at a step ST 1, while controlling a printer controller 15 and making the receipt printer 14 perform receipt printing of goods sales data, sequential storing of the goods sales data is carried out at the buffer formed in the RAM field.

[0023] Next, if the registration bundle of 1 dealings is directed by the bundle key input of a keyboard 16 by ST2, will control a printer controller 15, the receipt printer 14 will be made to perform receipt printing of the sum total data of the dealings concerned, and a visitor's payment data, and a receipt will be made to publish.

[0024] Next, a registration historical-data message is created in the message format shown in drawing 4 by ST3, and this message is transmitted to the hysteresis recording device 2 through the communication link controller 12 and a communication line 3. Periodically, if it detects a response ready for receiving by ST4, it will clear the buffer with which goods sales data was accumulated, and will end this processing repeatedly, until this message transmitting processing has the response ready for receiving which shows that it was normally receivable from the hysteresis recording device 2.

[0025] In addition, in drawing 4, a header 41 is the information on the transmission place address (communication link address of the hysteresis recording device 2), or the sending agency address (communication link address of the terminal 1 concerned). The terminal number 42 is an identification number beforehand assigned for every terminal. The receipt number 43 is a number equivalent to the number of sheets of the receipt published in the terminal 1. The registration time data 44 are time data read from the clock section 13, when a bundle key input is carried out. The goods sales data 45 is data stored in the buffer, and the sum total and payment data are data obtained by the bundle key input.

[0026] A terminal 1 has a transmitting means to transmit the registration historical data of the dealings by which sales registration of the goods sales data was carried out with said sales registration means to the hysteresis recording device 2 through a communication line 3 here. This transmitting means consists of CPU10, the memory section 11, and a communication link controller 12.

[0027] On the other hand, if the above-mentioned registration historical-data message is received through the communication link controller 22, program setting out of the hysteresis recording apparatus 2 is carried out so that processing shown in drawing 5 R> 5 (b) may be performed.

[0028] That is, it judges whether message reception was checked by ST5 and the message has been normally received by ST6. And when a busy condition etc. is not able to receive a message normally, the terminal 1 of message dispatch origin is answered in a receive-not-ready response.

[0029] If it checks that it is normally receivable by ST6, while answering the terminal 1 of message dispatch origin in a response ready for receiving, write-in record of the registration historical data (the terminal number 42, the receipt number 43, the registration time data 44, the goods sales data 45, and the sum total and payment data 46) which received is carried out in the order of reception at a hard disk 28.

[0030] The hysteresis recording apparatus 2 has a receiving means to receive the registration historical data transmitted from the terminal 1, and a record means to record the registration historical data received by this means in order of reception here.

[0031] A receiving means consists of CPU20, the memory section 21, and a communication link controller 22. A record means consists of CPU20, the memory section 21, and a hard disk controller 29.

[0032] Moreover, assignment of the output of registration historical data of the key input of a keyboard 26 carries out program setting out of CPU10 so that processing shown in drawing 6 R> 6 may be performed.

[0033] That is, if those of registration historical data with output specification are checked by ST7, it will judge whether the partial output was directed by ST8, and whether it was directed to the package output. And when a package output is directed, read-out and a printer controller 25 are controlled for all

the registration historical data recorded on (NO of ST8), and a hard disk 28 in order of registration, and the journal printer 24 is made to perform journal printing of all registration historical data.

[0034] When a partial output is directed by ST8, it stands by keying retrieval information by ST9. In addition, this retrieval information is any one of the terminal number 42, the receipt number 43, and the registration time data 44, or two or more combination.

[0035] And if retrieval information is inputted by key input, read-out and a printer controller 25 will be controlled for the registration historical data whose retrieval information concerned searched the hard disk 28 and corresponded, and the journal printer 24 will be made to perform journal printing of partial registration historical data.

[0036] Thus, if it is constituted this example, since printing issuance of the receipt of 1 dealings by which sales registration of the goods sales data was carried out with the sales registration means (10, 11, 16, 17) is carried out from the receipt printer 14, a receipt can be immediately passed to the visitor who finished the dealings concerned in each terminal 1.

[0037] Moreover, the registration historical data of these dealings are transmitted to the hysteresis recording device 2 through a communication line 3 by the transmitting means (10, 11, 12). In the hysteresis recording device 2, whenever a receiving means (20, 21, 22) receives registration historical data from each terminal 1, write-in record of the registration historical data is carried out with a record means (20, 21, 29) at a hard disk 28.

[0038] Therefore, write-in record of the registration historical data of the dealings by which sales registration was carried out in each terminal 1 at the hard disk 28 of the hysteresis recording apparatus 2 is carried out at the order of a registration bundle. The registration historical data recorded on this hard disk 28 can be checked by carrying out journal printing by the key stroke of a keyboard 26.

[0039] Thus, according to this example, the terminal 1 as the sales registration section and the hysteresis recording apparatus 2 as the registration hysteresis Records Department can be decentralized by the communication line 3 in the range in which data communication is possible, without losing a receipt issuance function and a registration historical-data record function. Consequently, since the journal printer 24 becomes unnecessary in the terminal 1 as the sales registration section, a miniaturization and increase in efficiency of a terminal 1 are attained. Moreover, since the noise over journal printing also disappears from a terminal 1, it becomes comparatively quiet.

[0040] Moreover, since assignment of a terminal 1 that registration hysteresis is checked, assignment of time, etc. can be performed in case journal printing of the registration historical data recorded on the hard disk 28 is carried out, journal printing only of the required registration historical data can be carried out. Consequently, when the check of registration hysteresis becomes easy, economization of journal paper can be aimed at.

[0041] Moreover, since the registration historical data of two or more sets of terminals 1 are concentrated and managed by one place, there is also an advantage which can do a data control activity efficiently.

[0042] In addition, although the communication line 3 which connects each terminal 1 and the hysteresis recording device 2 was made into the cable in said example, you may connect by the wireless circuit.

[0043] Moreover, although the registration historical data which received in the hysteresis recording apparatus 2 were written in the hard disk 28 in order of reception in said example, you may make it write in the floppy disk with which the floppy disk driver 28 was equipped.

[0044] Moreover, it is also possible to save them in it, as the registration historical data written in the hard disk 28 weekly, for example are transmitted to a floppy disk, to develop the registration historical data recorded on this PUROPPI disk in a personal computer, and to check registration hysteresis.

[0045] Moreover, it is also possible to form the receipt printer 14 and the journal printer 24 only in a master machine in a well-known master satellite mold POS system, to form only the receipt printer 14 in the remaining satellite machines, as shown in drawing 7, and to build this invention equipment.

[0046] In this case, each satellite machine 72 will have the completely same function as the terminal 1 in said example, and the master machine 71 will have the function of a terminal 1, and the function of the hysteresis recording device 2.

[0047] In addition, as for deformation implementation being variously possible in the range which does not deviate from the summary of this invention, it is needless to say that this invention is applied to the electronic cash register of a simple substance without a receipt printer etc.

[Translation done.]